

WHAT IS CLAIMED IS:

~~40B~~ 1. A method of subjecting a material in a liquid to explosive forces, comprising;

containing the material and the liquid in a vessel having a length in a first direction and a width in a second direction perpendicular to the first direction, the length being greater than the width, the vessel having a lower portion having an interior cross sectional shape perpendicular to the first direction;

subjecting the material and the liquid to the explosive forces in the vessel; and

removing the material from the vessel after being subjected to the explosive forces;

wherein the interior cross sectional shape is such that the material is subjected to a portion of the explosive forces reflecting off of an interior surface of the lower portion of the vessel.

2. The method of claim 1, wherein the vessel has a vessel-bottom and a vessel-top, the vessel-top being removeably positionable above the vessel-bottom.

3. The method of claim 2, wherein the interior surface of the vessel-bottom has at least one substantially planar surface extending substantially parallel to the first direction.

4. The method of claim 3, wherein the interior surface of the vessel-bottom has a substantially planar bottom surface extending substantially parallel to the first and second directions.

55B 15. The method of claim 4, wherein the interior surface of the vessel-bottom has a substantially planar side surface extending parallel to the first direction and sloped at an angle of between 0° and 90° relative to the second direction.

6. The method of claim 2, wherein the interior surface of the vessel-bottom is semi-cylindrical.

7. The method of claim 2, further comprising
connecting the vessel-bottom to a foundation;
fixing at least one connector to the foundation; and
reversibly locking the vessel-top to the connector and the foundation with a locking mechanism.

8. The method of claim 7, wherein the locking mechanism comprises a locking plate slidably attached to the vessel-top and an actuator that slides the locking plate relative to the vessel-top, the locking plate having a hole with two portions, one portion sized larger than the connector so that the connector passes through it and the other portion sized smaller than the connector so that when the locking plate is slid to a locking position, the connector prevents the locking plate from moving away from the foundation.

9. The method of claim 2, further comprising connecting the vessel-bottom to a foundation and a lower mounting spring such that the vessel-bottom is resiliently connected to the foundation.

10. The method of claim 9, wherein the vessel-bottom has a flange extending outwardly from the vessel-bottom parallel to the first and second directions, the flange being located vertically between an upper mounting spring and the lower mounting spring.

111 ^{3B1} The method of claim 2, wherein the vessel-bottom is rigidly fixed to a foundation.

12. The method of claim 2, further comprising venting the vessel-top through a hole through the vessel-top, a deflector being located inside the vessel-top and adjacent the hole so as to allow gas to pass through the hole and substantially prevent the material or liquid from passing through the hole.

13. The method of claim 2, further comprising removing the material and liquid from the vessel through an opening in the vessel created by moving a movable end, the movable end being movable relative to a main portion of the vessel.

14. The method of claim 13, wherein the main portion has a groove in an interior surface and the movable end is a sliding member mounted in the groove such that when the movable end is in a closed position the vessel-bottom contains the material and liquid, and when the movable end is in an open position the material and liquid can be removed from the vessel-bottom through the opening created by sliding the movable end.

15. The method of claim 2, further comprising causing the explosive forces by detonating an explosive charge in the liquid.

16. The method of claim 1, further comprising causing the explosive forces by introducing energy to the liquid by discharging a capacitor through a capacitor discharge electrode located within the vessel.

17. The method of claim 16, wherein the energy is supplied to the capacitor discharge electrode by a capacitor discharge machine attached to the capacitor discharge electrode.

18. The method of claim 17, wherein the vessel is a pipe.

56B1 19. The method of claim 2, further comprising sequentially positioning the vessel-top above each of a plurality of vessel-bottoms such that the vessel-top is positioned above a first one of the plurality of vessel-bottoms when a first batch of the material and liquid in the first one of the plurality of vessel-bottoms is subjected to the explosive forces.

20. The method of claim 19, further comprising placing a second batch of the material and liquid in a second one of the plurality of vessel-bottoms when the vessel-top is positioned above the first one of the plurality of vessel-bottoms.

21. The method of claim 5, further comprising sequentially positioning the vessel-top above each of a plurality of vessel-bottoms such that the vessel-top is positioned above a first one of the plurality of vessel-bottoms when a first batch of the material and liquid in the first one of the plurality of vessel-bottoms is subjected to the explosive forces.

22. The method of claim 21, further comprising placing a second batch of the material and liquid in a second one of the plurality of vessel-bottoms when the vessel-top is positioned above the first one of the plurality of vessel-bottoms.

23. The method of claim 6, further comprising sequentially positioning the vessel-top above each of a plurality of vessel-bottoms such that the vessel-top is positioned above a first one of the plurality of vessel-bottoms when a first batch of the material and liquid in the first one of the plurality of vessel-bottoms is subjected to the explosive forces.

24. The method of claim 23, further comprising placing a second batch of the material and liquid in a second one of the plurality of vessel-bottoms when the vessel-top is positioned above the first one of the plurality of vessel-bottoms.

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The method of claim 2, wherein the material is metal.

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